

University of Arkansas, Fayetteville
ScholarWorks@UARK

General Human Environmental Sciences
Undergraduate Honors Theses

General Human Environmental Sciences

12-2012

Customer satisfaction of self-serve concepts in the food industry

Mayuka Abe

University of Arkansas, Fayetteville

Follow this and additional works at: <http://scholarworks.uark.edu/ghesuht>

Recommended Citation

Abe, Mayuka, "Customer satisfaction of self-serve concepts in the food industry" (2012). *General Human Environmental Sciences Undergraduate Honors Theses*. 2.
<http://scholarworks.uark.edu/ghesuht/2>

This Thesis is brought to you for free and open access by the General Human Environmental Sciences at ScholarWorks@UARK. It has been accepted for inclusion in General Human Environmental Sciences Undergraduate Honors Theses by an authorized administrator of ScholarWorks@UARK. For more information, please contact scholar@uark.edu.

Undergraduate Honors Thesis

In fulfillment of the requirements of the Honors Program for the Degree of

Bachelor of Science in Human Environmental Sciences (B.S.H.E.S)

Major in Food, Human Nutrition and Hospitality Management

With Emphasis in Hospitality and Restaurant Management

Customer Satisfaction of Self-serve Concepts in the Food Industry

Supervisor: Dr. Godwin-Charles Ogbeide

Submitted by: Mayuka Abe

Fall Semester 2012

ACKNOWLEDGEMENTS

This research project would not have been possible without the support of many people. I would like to first thank Dr. Godwin-Charles Ogbeide, my advisor for his suggestion for this project and for the valuable guidance and advice. His willingness to motivate me contributed tremendously to my project. I also want to thank him for the countless hours he took away from his family and his work to help me succeed. I can't say thank you enough to him for his support. I would also like to thank my committee members, Dr. Robert Harrington and Dr. Curt Rom for their interest in my research and their commitment to being a committee member. Their feedback and suggestions helped me stay focused and push myself for a better final draft.

I would not have been challenged to work on this project without the encouragement of my family, Toshi Abe, Yukako Abe, and Yushi Abe, from my hometown in Japan, who have always cared about me. I really thank my parents who let me have a great opportunity to study at University of Arkansas. Without their support and the many years and attention spent on my education, I wouldn't be who I am today.

Lastly, I would like to thank my friends who have always been there for me whenever I needed them. During my years studying in the United States, they have been the surrogate family. Without their support, I couldn't feel peace of mind to concentrate on this project.

Customer Satisfaction of Self-serve Concepts in the Food Industry

Presented by: Mayuka Abe

And hereby certify that in their opinion it is worthy of acceptance.



Godwin-Charles Ogbeide, Ph.D, MBA



Robert Harrington, Ph.D, MBA



Curt Rom, Ph.D

TABLE OF CONTENT

Table of Contents	3
List of Figures	4
List of Tables	4
Abstract	5
1 Introduction.....	6
1.1 Background Information.....	6
1.2 Definitions	7
1.2.1 Self-serve	7
1.2.2 Counter Service.....	7
1.2.3. Casual Dining	7
1.2.4 Product Quality	8
1.2.5 Cleanliness	8
1.2.6 Product Quantity	8
1.2.7 Value	8
1.2.8 Quick Service.....	9
1.2.9 Price	9
1.2.10 Environment.....	9
1.2.11 Location and Distance.....	10
2 Literature Review.....	11
2.1 History of Self-serve Concept.....	11
2.2 Self-serve Concept in the Hospitality Industry	11
2.3 Consumer and Employee Readiness	12
2.4 Frozen Dessert Establishment.....	13
2.5 Purpose/ Objective	14
3 Methodology	15
3.1 Population and Sample	15
3.2 Instrument	15
3.3 Data Analysis	16
4 Result, Discussions and Conclusions.....	17
4.1 Demography.....	17
4.2 First Objective.....	17
4.3 Second Objective	19
4.4 Third Objective	20
4.5 Fourth Objective	21
4.6 Fifth Objective	22

5 Conclusions, Implications and Limitations.....	23
5.1 Conclusion	23
5.2 Implications.....	23
5.3 Limitations	24
References.....	25
Appendix.....	29

List of Figures

Figure 1: Customers’ Preference of Frozen Dessert Establishment Concepts.....	20
---	----

List of Tables

Table 1: Customers’ Ranking of Important Attributes for Patronage.....	18
Table 2: Ranking of Customers’ Satisfaction Attributes for Patronage	19
Table 3: Customers’ Preference of Frozen Dessert Establishment Concepts.....	20
Table 4: Impact of Gender on Customers’ Preference of Self-serve Concepts of Frozen Dessert Establishment	21
Table 5: Impact of Household Income on Customers’ Preference of Self-serve Concepts of Frozen Dessert Establishment	22

CUSTOMER SATISFACTION OF SELF-SERVE CONCEPTS IN THE FOOD INDUSTRY

ABSTRACT

The purpose of this study was to explore customer satisfaction levels in a Self-serve frozen dessert establishment. The target population for this study was guests at a commercial frozen dessert operation in Northwest Arkansas. Over 200 useable samples were collected via direct data collection method. The results showed the attributes that the consumers in this study found important for patronage and customer satisfaction. The results also indicated consumers' preferred frozen dessert establishments. Attributes such as product quality, cleanliness, quick service, value, and product quantity were highly ranked.

Keywords: Food industry, Customer Satisfaction, frozen dessert Establishment, Self-serve Concept

CHAPTER 1

INTRODUCTION

1.1 Background Information

As the technology improved, more and more Self-serve items were being used in our daily lives. ATM, automatic check-in or check-out machines at hotels or airports, online banking accounts, and Federal Express package tracking services are some examples of these (Fleischauer, 2008; Portillo, 2005). The supermarket is an example of a Self-serve industry where people take whatever they want to purchase and pay at the check-out afterwards (Portillo, 2005). In the restaurant industry, there are many places where the customers serve themselves, such as buffet-style restaurants, university cafeterias, or even at drink fountains. One of the fastest growing areas in the restaurant industry is the frozen yogurt or custard stores. There are many Self-serve yogurt stores in the United States and around the world. Why are Self-serve yogurt establishments growing so fast? What is the satisfaction level of their customers? Is their customer satisfaction level better because of the Self-serve Concept? What can other hospitality businesses learn from the Self-serve concept? These are some of the questions this study intends to answer.

1.2 Definitions

1.2.1 *Self-serve*

Self-serve may be defined as “the term of standardization through Information Technology” (Edvardsson, Gustafsson, and Roos, 2005). In the food industry, with technology operation such as serving machines or computer based ordering systems, each customer can serve him or herself. There are many restaurants that use this concept to allow all customers to get what they want. The examples are take-out, drive-through window service, cafeteria service, buffet service and vending machines (Gregoire, 2010). The benefits of this concept for the customer are shorter lines, faster service, accuracy, privacy, more control, personalized experience and little to no interaction with the clerk (Hospitality Technology, 2011). The benefit for the business is less needs for employee cost (Economist, 2004).

1.2.2 *Counter Service*

Counter service can be found where the customers need speedy service such as diners, coffee shops and drug stores (Gregoire, 2010). Gregore (2010) also describes this service as a friendly service for those eating alone. At the counter, he or she can join other people and enjoy getting to know each other (Gregoire, 2010). The employees at the counter service establishments take orders, serve, and clean the counter (Gregoire, 2010).

1.2.3 *Casual Dining*

Casual Dining is also called table service. Once a customer gets to his or her seat in the restaurant, all the customer needs to do is make conversation with the waitperson to order, receive the food they want, and enjoy the meal (Gregoire, 2010). There are three

main styles in casual dining: American-style by which the food will be prepared in the kitchen and served to the guests, French style where the food will be prepared at the table, and Family-style by which food will be brought to the table in bowls and then passed around by guests (Gregoire. 2010).

1.2.4 Product Quality

Product quality is the essential element for food establishments. Quality not only includes the appearance of the food, but the nutrient factors, food safety, packaging, and processing of the food. (Gregoire, 2010; Hooker and Caswell, 1996). If the customers demand and are willing to pay more for a higher quality product, the food establishment can control the product quality and price based upon the benefits higher quality product for that establishment (Hooker and Caswell, 1996).

1.2.5 Cleanliness

Cleanliness is the condition of an object being free of physical grime and of good appearance such as sparkling glass, shining silver, and a spotless floor (Gregoire, 2010). To prevent food borne illness, sanitizing the furniture and equipment are also important (ServeSafe, 2012).

1.2.6 Product Quantity

Product quantity refers to the amount and numbers of food that are prepared for service (Gregoire, 2010). To get higher customer satisfaction, the food establishment needs to efficiently control their budget and product quality (Gregoire, 2010).

1.2.7 Value

One of the biggest determinants of customer satisfaction is value (Fornell, Johnson, Anderson, Cha, and Bryant, 1996). The value is decided based on what the

customers receive from their expenditure (Hallowell, 1996). If the customers think they are getting more quality and quantity for their money, the value for the products will increase. The value level directly relates to the customer satisfaction (Cronin, Brady, and Hult, 2000).

1.2.8 Quick Service

At quick service restaurants, the service and menu are limited and food will be sold at a lower price (Ninemeier and Perdue, 2005). Since most food items are already prepared at central supply facilities and transferred to the restaurant, food will be ready in a shorter time period after customer has ordered (Ottenbacher and Harrington, 2009).

1.2.9 Price

Price will cover the food cost, labor cost, and additional operating cost such as rent, energy, advertising and promotion (Gregoire, 2010). Since customers usually use price as a gauge for their expectations, evaluation and decision making elements of the service and products for that establishment, price needs to be decided by considering the value and competition with other establishments (Han and Ryu, 2009; Bolton and Lemon, 1999; Varki and Colgate, 2001; Keiser, Demicco, and Grimes, 2000).

1.2.10 Environment

Mehrabian and Russell's theory said that each person's reaction to the environment has two opposing reactions which are approach or avoidance (1974). Approach occurs when the person desires to stay in the environment for longer period and the avoidance occurs when the person desires to leave the environment. Therefore, innovating an approachable environment is essential for an establishment's success to get higher customer satisfaction (Reimer and Kuehn, 2005; Wakefield and Blodgett, 1996).

The examples of innovative environmental elements are décor, artifacts, layout, and music (Han and Ryu, 2009).

1.2.11 *Location and Distance*

Depending on the location, the sales of the food establishment will change. If the location is the center of attraction in the city or between two attraction places, that location is a “good” one since more people have more chances to come by (Bull, 1994). Therefore, management needs to give good consideration to the location of the establishment.

Moschis, Curasi, and Bellenger (2003) mentioned in their study that the location of the food establishment is one of the most important elements for customers’ restaurant-patronage decisions. In their study, “location near the place you live or work” is one of the highest reasons for patronizing specific restaurants. The closer to where the customer lives or works, the higher the possibility they will visit the food establishment.

CHAPTER 2

LITERATURE REVIEW

2.1 History of Self-serve Concept

The first Self-serve Concept was invented late in the year 1916 by Clarence Saunders who is the founder of Piggly Wiggly, one of the largest supermarket chains in the United States (Freeman, 1992). Before that, all the supermarkets had many employees working in order to take the customers' orders and to collect the items which were stocked behind the counters (Salomann, Kolbe, and Brenner, 2005). Saunders changed that system to what is now called, "Self-serve," which allows customers to pick out and pay for the items of their choice in order to reduce employee costs (Freeman, 1992). After about a century, Saunders started an all-machine operated supermarket business, but failed because the machines were easily broken and cost more than expected (Portillo, 2005). However, the concept is gaining ground in the 21st century. The Self-serve concept works well not only for customers but also businesses. Burrows showed the financial result as to how much a company saved by introducing technology to the service industry (2001). Cutting employee cost resulted in saving the company money. The Self-serve concept is also used in the hospitality industry.

2.2 Self-serve Concept in the Hospitality Industry

Getting food by oneself at the restaurant, checking in and out at the hotel or checking in and getting an airline ticket at the airport are all examples for Self-serve concepts which are used in the hospitality industry. In the past, all those processes were done by people who worked at the company, but once the businesses started using the Self-serve concept, most of the time they got better results as well as lower employee

costs and higher customer satisfaction (Hospitality Technology, 2011.) At the same time, even if the users had some difficulties while they got used to the concept, they still tended to feel comfortable about using the Self-serve concept. This is because they can get whatever they want at the restaurants; and, at the hotels and airports, they can save time by not having to wait in long lines to check in or out (Abdlaziz, Hegazt, and Elabbassy, 2010).

2.3 Consumer and Employee Readiness

Meuter, Bitner, Ostrom, and Brown said that to succeed in the Self-serve industry, consumer readiness is important. Self-serve concepts that support this are: role clarity, motivation, and ability (2005). At first, both customers and employees need to know how the Self-serve system works by role clarity (Meuter, et al., 2005). It is obvious that people do not understand what to do the first time because they are used to the “order and get” concept through past experiences. Easingwood’s study showed 89% of companies have problems both in customers and employees after the company started using new technology (1986). Therefore, the concept and how it works should be well-explained to both the employees and customers. Customers need to be their own “server” with the responsibility of getting their own choice items in regard to their own satisfaction (Bendapudi and Leone, 2003; Meuter and Bitner, 1997). More and more companies are trying to develop a good relationship with their customers and support them to be co-producers for products (Vargo and Lusch, 2004). Secondly, both the employees and customers should be motivated to use the-Self-serve concept via some benefits (Meuter, et al., 2005). Meuter, et al. also said that customers can be motivated because they are selecting what they want by themselves. Moreover, they can take as much time as they

want since no one is waiting to take their order for them. On the other hand, employees will be motivated because if all the customers shop by themselves, they do not need to spend too much time taking care of the customer. This will allow the employees to work on other tasks. When both employees and customers are both motivated, more customers tend to be willing to purchase Self-serve products (Larsson and Bowen, 1989). It can be said this is due to a good store atmosphere which makes customers feel comfortable and spend more money on the products. Last, but not least, the customers' abilities to deal with Self-serve is important. All systems need to be simple and easy for all customers to use. This is necessary in order to make customers feel confident (Ellen, Bearden, and Sharma, 1991; Jayanti and Burns, 1998; Jones, 1986). It should be what people "can do" rather than "want to do" or "know how to do" (Meuter, et al., 2005). It is important to provide easy and useful technology for customers so that they do not step back from new technology just because it sounds difficult to use (Adams, Nelson and Todd, 1992; Davis, 1989).

2.4 Frozen Dessert Establishment

After the introduction of the Self-serve concept, many industries in the hospitality fields started to use the concept in their businesses. One of the fastest growing companies is the frozen dessert establishment. Based on Missouri Department of Health & Senior Services, the frozen desserts include ice cream, soft-serve products, frozen custard, frozen yogurt, sherbets, water ice, and frozen novelties (Nixon and Donnelly, 2012) In the 1970s, when frozen desserts came into the market, many people did not accept them because of their tart taste, especially frozen yogurt (Avizienis, 2011). However, by insisting on the healthier aspect of the products, frozen dessert establishments started

getting more attention in the industry. From the mid-1980s until the early 1990s, growth at Self-serve frozen dessert establishments resulted in a 200% per year sales growth (Steinhauer, 2007). Nowadays, the frozen dessert industry is still growing and many companies are opening new stores all over the world, not only in the United States but also in other countries such as Korea (Steinhauer, 2007). Since frozen dessert industries are growing so fast, it can be estimated that many customers who buy products at these establishments tend to be satisfied with both the products and the concept. However, there are few studies describing customers' satisfaction in this industry.

2.5 Purpose / Objective

The purpose of this study is to investigate the customer satisfaction level of the Self-serve concept in the food industry. The objectives of this study include the following:

1. To examine the level of importance of Self-serve attributes in regard to frozen dessert establishments.
2. To explore the level of customer satisfaction of a Self-serve frozen dessert attributes.
3. To determine the customer preference for frozen dessert establishments.
4. To examine the impact of gender on consumer preference for frozen dessert establishments.
5. To examine the impact of household income on consumer preference for frozen dessert establishments.

CHAPTER 3

METHDOLOGY

3.1 Population and Sample

The target population for this study was guests at a commercial foodservice operation in Northwest Arkansas. The sample selection was based on a convenience sample of the guest presented at the foodservice operation at the time the data was collected. Data was collected at various times of the day including the lunch and dinner periods three days per week for two weeks.

3.2 Instrument

The instrument (questionnaire) for this study was based on the review of literature. The instrument was tested for validity and reliability. The validity of the instrument was established by selected experts. The reliability was based on a Cronbach's Alpha Coefficient. A Cronbach's alpha coefficient of 0.70 is the usual measure of the reliability statistics (Harris and Ogbonna, 2001; Ary, Jacobs, and Razavieh, 2002). The Cronbach's alpha coefficient of the instrument used for this study was 0.77, indicating that the instrument was reliable (Harris, et al., 2001; Hsu, Hsu, Huang, Leong, and Li, 2003). The instrument is made up of three parts: Part 1 of the instrument consists of 10 questions regarding the level of importance of some attributes of Self-serve frozen dessert establishments. Part 1 of the instruments was based on a 5-point Likert scale (1 = not important, 5 = very important). An example of the statements is: Please circle a number which best indicates the importance of "price" in your decision to buy our product.

Part 2 of the instrument consists of 14 questions regarding the customer satisfaction level of Self-serve frozen dessert establishments, and the satisfaction level of

similar establishments with different concepts. Part 2 of the instruments was also based on a 5-point Likert scale (1 = very dissatisfied, 5 = very satisfied). An example of the statements is: Please circle a number which best describes your level of satisfaction of “product quality” in a Self-serve frozen dessert establishment. The preferred concept between Self-serve, counter service, and casual dining for a frozen dessert establishment was also asked in Part 2.

Part 3 of the instrument consists of 7 questions regarding the demographic profiles of the participants that might be useful for data analysis. Some of the demographic profiles include gender, household income, and employment status.

3.3 Data Analysis

Data were analyzed using the Statistical Package for Social Sciences (SPSS) for Windows, a product of SPSS, Inc. In order to ensure no data irregularities or wrong data entry, frequency was used to screen the data for mistakes. Descriptive statistics (e. g. percentage, mean, etc.) were used to analyze the demographic factors, the level of importance and customer satisfaction attributes in regard to frozen dessert establishments. Inferential statistics (independent sample t-test) was used to analyze the impact of gender and household income on consumer preference for frozen dessert establishments.

CHAPTER 4

RESULT, DISCUSSTIONS AND CONCLUSIONS

4.1 Demography

The sample selection for this study included university students, professionals, and community visitors. The reliability of the data collected was based on Cronbach's Alpha Coefficient. The Cronbach's alpha coefficient of the instrument was 0.77, indicating that the instrument was reliable. 209 useable survey responses were directly collected from all the participants. About 36% of the respondents were male, 63% female and 1% unknown. The age of the respondents ranged from less than 20 years to over 65 years. About 24% of the respondents were less than 20 years, 39% were between 21 and 25 years, 15% were between 26 and 30 years, 9% were between 31 and 40 years, 12% were above 40 years and 1% unknown. The respondents' household income ranged from less than \$21,000/year to more than \$100,000/year. About 7% of the respondents' household incomes were unknown, 56% were making less than \$50,000/year and 37% were making more than \$50,000/year.

4.2 First Objective

The first objective was to examine the level of importance of customer satisfaction attributes in regard to frozen dessert establishments. Table 1 shows the mean and the standard deviation of respondent's level of importance of customer satisfaction attributes toward the establishment.

Table 1. Customers' Ranking of Important Attributes for Patronage

Rank	Important Attributes for Customers	Mean	Standard Deviation
1	Product quality	4.67	0.54
2	Cleanliness	4.65	0.53
3	Value	4.31	0.76
4	Product quantity	4.11	0.91
5	Quick service	4.04	0.90
6	Price	3.89	0.98
7	Fun environment	3.83	1.13
8	Location	3.62	1.10
9	Distance	3.52	1.10
10	Self-serve	3.47	1.17

The five most highly ranked important attributes for customers were “product quality” (M=4.67), “cleanliness” (M=4.65), “value” (M=4.31), “product quantity” (M=4.11), and “quick service” (M=4.04). Product quality: the degree of frozen desserts’ excellence was the most important attribute for customers at a frozen dessert establishment in this study, followed by the cleanliness of the facility. The value, which was the amount of utility customers got from what they were paying for, was the third most important attribute. Product quantity and quick service were ranked the fourth and fifth most important attributes, respectively. It is important to note that “price” and “Self-serve” are not ranked as one of the top important attributes according to the participants in this study. This observation indicates that the consumers in this study patronized this establishment because of attributes which are more important than “price” and “Self-serve” as previously indicated.

4.3 Second Objective

The second objective was to explore the level of customer satisfaction in a Self-serve frozen dessert establishment. Table 2 shows the mean and the standard deviation of respondent's level of satisfaction in customer satisfaction attributes in the establishment.

Table 2. Ranking of Customers' Satisfaction Attributes for Patronage

Rank	Customers' Satisfaction Attributes	<i>M</i>	<i>SD</i>
1	Cleanliness	4.57	0.66
2	Product quality	4.54	0.66
3	Quick service	4.50	0.67
4	Customer friendly equipment	4.48	0.64
5	Product quantity	4.43	0.72
6	Fun environment	4.31	0.76
7	Value	4.30	2.93
8	Location	4.16	0.83
9	Distance	4.00	0.90
10	Price	3.75	0.85

The highest ranked attributes according to customers were “cleanliness” (M=4.57), “product quality” (M=4.54), “quick serve” (M=4.50), “customer friendly equipment” (M=4.48), and “product quantity” (M=4.43), respectively. Product quality and cleanliness, which ranked first and second in the first objective, were also ranked in reverse order as first and second in the second objective. The result shows that cleanliness of the facility and product quality were the most important attributes according to the consumers in this study. The consumers in this study were also very impressed with the quick service culture of the Self-serve concept. The ability to receive the product in a short period of time, and how easily they could use the equipment at the establishment were highly ranked customer satisfaction attributes. To top it all off, the ability for the consumers to get the desirable amount was also highly ranked, indicating that the consumers' ability to get sufficient quantity of product purchased should not be overlooked.

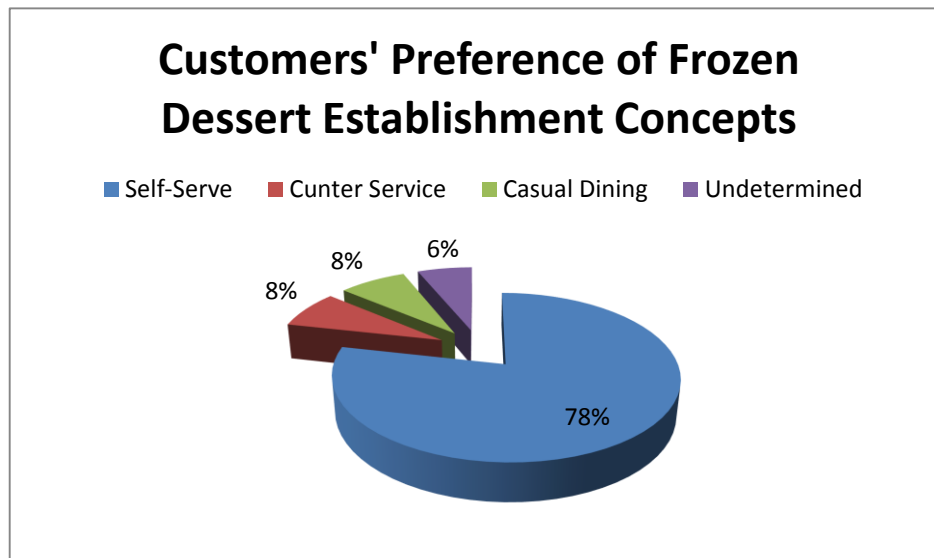
4.4 Third Objective

The third objective was to determine the customer preference for the frozen dessert establishment. Table 3 shows the mean and the standard deviation of customer preference of the frozen dessert establishment concept.

Table 3. Customers' Preference of Frozen Dessert Establishment Concepts

Rank	Concepts	<i>M</i>	<i>SD</i>	# of False Choice Preference (N=209)	%
1	Self-serve	4.56	0.57	164	78.47%
2	Counter service	4.38	0.81	16	7.66%
3	Casual Dining	4.36	0.77	16	7.66%
4	Undetermined	N/A	N/A	13	6.22%
Total				209	

Figure 1. Customers' Preference of Frozen Dessert Establishment Concepts



The highest ranked concept was “Self-serve” (M= 4.56), followed by “counter service” (M=4.38), and “casual dining” (M=4.36). When the consumers were asked to choose a concept that they prefer for frozen dessert establishments, the majority of customers (78.47%) chose the Self-serve concept. 7.66% of the customers chose counter service and casual dining was also chosen by 7.66% of the customers. That means

customers probably preferred the satisfaction attributes mentioned in the second objective above (cleanliness, product quality, quick service, customer friendly equipment, and product quantity) of the Self-serve concept over other concepts. Figure 1 above displays the differences between customers' preference for “Self-serve,” “counter service,” and “casual dining” in form of a pie chart.

4.5 Fourth Objective

The fourth objective was to examine the impact of gender on consumer preference for frozen dessert establishments. Table 4 shows the independent sample t-test of the impact of gender on customer’s preference of the frozen dessert establishments’ Self-serve concept.

Table 4. Impact of Gender on Customers' Preference of Self-serve Concepts of Frozen Dessert Establishment

Gender	Frequency	<i>M</i>	<i>SD</i>	df	Mean Difference	F	P
Male	76	4.45	0.57	203	0.173	1.26	0.036
Female	131	4.62	0.56				

The mean of the male and female level of preference was $M = 4.45$ and $M = 4.62$, respectively. This result shows that both genders are very satisfied with the Self-serve concept of frozen dessert establishments. However, the females’ preference of Self-serve concept is significantly different from the males’ level of preference ($P=0.036$). This result indicates that 95% of the times, females are more likely to prefer Self-serve concepts as compared to males.

4.6 Fifth Objective

The fifth objective was to examine the impact of household income on consumer preference for frozen dessert establishments. Table 5 shows the independent sample t-test of the impact of household income on customers' preference for the frozen dessert establishments' Self-serve concept.

Table 5. Impact of Household Income on Customers' Preference of Self-serve Concepts of Frozen Dessert Establishment

Household Income	Frequency	<i>M</i>	<i>SD</i>	df	Mean Difference	F	P
\$0-50,000	117	4.56	0.58	192	0.032	0.027	0.71
Above \$50,000	131	4.53	0.58				

The mean of the population with a household income between \$0-50,000 and above \$50,000 per year was $M = 4.56$ and $M = 4.53$, respectively. The result of the t-test indicates that there is no significant difference between these two segments of household income. The reason for this can be supported by the result of the second objective. The result of the second objective shows that price was not one of the highly ranked attributes for customers' satisfaction level in a frozen dessert establishment. In fact, price was the lowest ranked attribute.

CHAPTER 5

CONCLUSIONS, IMPLICATIONS AND LIMITATIONS

5.1 Conclusion

Some of the implications of this study include the following: Business owners and professionals that want to be successful in frozen dessert business should strive for a high level of product quality, cleanliness, value, product quantity, and quick service. The result of the second objective suggests that owners and professionals of this business or similar businesses should do whatever it takes to maintain a high level of facility cleanliness, product quality, quick service, customer friendly equipment, and an appropriate amount of product quantity for customers' satisfaction.

Business owners and professionals of frozen dessert establishments also should be mindful of their female customers' preference for Self-serve over the male preference. Hence, they should strive to maintain customer satisfaction attributes, as discussed previously, in order to keep their female customers happy. Business owners and professionals of frozen dessert establishments should also be mindful that household income is not a significant factor in customers' preference for Self-serve concepts. Hence, they should not limit their marketing mix to a particular socio-economic group in their target market.

5.2 Implications

The major educational implication of this study is that instructors should not negate the importance of stressing the indicated attributes (product quality, cleanliness, value, product quantity, and quick service) to their students, as a way to develop customer base/loyalty.

5.3 Limitations

The limitation of this study is that its sample selection was based on one frozen dessert establishment. The use of multiple and randomly selected sample frozen dessert establishments could provide a better and more generalizable result.

REFERENCES

- Abdelaziz, G. S., Hegazy, A. A. and Elabbassy, A. (2010). Study of Airport Self-service Technology within Experimental Research of Check-in Techniques Case Study and Concept. *International of Computer Science Issues*, 7(3)1.
- Adams, D., Nelson, R. R. and Todd, P.A. (1992). Perceived Usefulness, Ease of Use, and Usage of Information Technology: a replication. *MIS Quarterly*, 16(2), 227-47.
- Ary, D., Jacobs, L. C. and Razavieh, A. (2002). Introduction to Research in Education (6th ed.). Forth Worth: Harcourt Brace.
- Avizienis, A. (2011). How Frozen Yogurt Is Made. *How Products Are Made*, 2. Retrieved: March 22, 2011 from <http://www.madehow.com/Volume-2/Frozen-Yogurt.html>.
- Bendapudi, N. and Leone, P. P. (February, 2003). Psychological Implications of Customer Participation in Coproduction. *Journal of Marketing*, 67, 14-28.
- Bolton, R. N. and Lemon, K. N. (1999). A dynamic model of customers' usage of services: Usage as an antecedent and consequence of satisfaction. *Journal of Marketing Research*, 36, 171-186.
- Bull, O. A. (1994). Pricing a Motel's Location. *International Journal of Contemporary Hospitality management*. 6(6) 10-15.
- Burrows, P. (2001). The Era of Efficiency. *Business Week*, 94-98.
- Cronin, J. J., Jr., Brady, M. K. and Hult, G. T. (2000). Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intentions in service environments. *Journal of Retailing*, 76(2), 193-218.
- Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319-39.
- Easingwood, C. J. (1986). New Product Development for Service Companies. *Journal of Product Innovation Management*, 3(4), 264-75.
- Economist. "You're Hired," *The Economist*, September 16, 2004.
- Edvardsson, B., Gustafsson, A., and Roos, Ir. (2005). "Service portraits in service research: a critical review." *International Journal of Service Industry Management*, 16 (1) 107 - 121

- Ellen, P. S., Bearden W. O. and Sharma. S. (1991). Resistance to Technological Innovations: Examination of the Role of Self-Efficacy and Performance Satisfaction,” *Journal of the Academy of Marketing Science*, 19(4) 297-307.
- Freeman, M. (1992). Clarence Saunders: The Piggly Wiggly Man. *Tennessee Historical Quarterly*, 51, 161-69.
- Fleischauer, E. (January 10, 2008). Southern Family Stores to Become Piggly Willy. *The Decatur Daily (AL)*: Retrieved: February 15, 2011. Newspaper Source. EBSCO. Web.
- Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J., and Bryant, B. E. (October, 1996). The American Customer Satisfaction Index: Nature, Purpose, and Findings. *Journal of Marketing*, 60, 7-18.
- Gregoire, B. M. (2010). Foodservice Organizations A Managerial and Systems Approach (7th edition.). New Jersey, Upper Saddle River. 202, 289-290, 625-626
- Hallowell, R. (1996). The Relationship of Customer Satisfaction, Customer Loyalty, and Profitability: An Empirical Study. *The International Journal of Service Industry Management*, 7(4), 27-42.
- Han, H. and Ryu, K. (November 2009). The Roles of the Physical Environment, Price Perception, and Customer Satisfaction in Determining Customer Loyalty in the Restaurant Industry. *Journal of Hospitality & Tourism Research*, 33(4) 487-510.
- Harris, L.C., and Ogbonna, E. (2001). Strategic HRM, market orientation, and organizational performance. *Journal of Business*, 51, 157-166.
- Hooker, N.H. and Caswell, J.A. (1996). “Regulatory Targets and Regimes for Food Safety: A Comparison of North American and European Approaches.” In *The Economics of Reducing Health Risk From Food*, J.A. Caswell, ed., 1-17. Storrs, CT: Food Marketing Policy Center.
- Hsu, J., Hsu, J.C., Huang, S.Y., Leong, L., and Li, A.M. (2003). Are leadership styles linked to turnover intention: An examination in Mainland China. *Journal of American Academy of Business, Cambridge*, 3(1/2), 37-43.
- Jayanti, R. K. and Burns, A. C. (Winter, 1998). The Antecedents of Preventative Health Care Behavior: An Empirical Study. *Journal of the Academy of Marketing Science*, 26, 6-15.
- Jones, G. R. (1986). Socialization Tactics, Self-Efficacy, and Newcomers’ Adjustments to Organizations. *Academy of Management Journal*, 29(2) 262-79.

- Keiser, J. R., Demicco, F. and Grimes, R.N. (2000). Contemporary management theory: Controlling and analyzing costs in food service operations (4th ed.) Upper Saddle River, NJ: Prentice Hall.
- Larsson, R. and Bowen D. E. (1989). Organization and Customer: Managing Design and Coordination of Services. *Academy of Management Review*, 14(2), 213-33.
- Mehrabian, A. and Russell, J. A. (1974). An approach to environmental psychology. Cambridge: MIT Press.
- Meuter, M. L. and Bitner, M. J. (October 2-4, 1997). The New Service Encounter: Customer Usage and Satisfaction with Self-Service Technologies. Paper presented at the American Marketing Association's Frontiers in Services Conference, Nashville, TN.
- Meuter, M. L., Bitner, M. J., Ostrom, A. L. and Brown, S. W. (2005). Choosing Among Alternative Service Delivery Modes: An Investigation of Customer Trial of Self-Service Technologies. *Journal of Marketing*. 69, 61-83.
- Moschis, George., Curasi, Folkman, Carolyn. and Bellenger, Danny. (2003). Restaurant-selection Preferences of Mature Consumers. *Cornell Hotel and Restaurant Administration Quarterly* 44:51
- Ninemeier, J.D. and Perdue, J. (2005), Hospitality Operations: Careers in the World's Greatest Industry, Pearson Education, Upper Saddle River, NJ.
- Nixon, J. and Donnelly, T. M. Missouri Department of Health and Senior Services. Retrieved: Sep 17th, 2012 from <http://health.mo.gov/safety/foodsafety/frozendessert.php>
- Ottenbacher, C. M., and Harrington, J. R. (2009) The product innovation process of quick-service restaurant chains. *International Journal of Contemporary Hospitality Management*, 21(5) 523-541.
- Portillo, E. (2005). New patent museum details the birth of the supermarket. *Knight Ridder Tribune Washington Bureau (DC)* Retrieved: February 15, 2011. Newspaper source. EBSCO. Web.
- Reimer, A. and Kuehn, R. (2005). The impact of servicescape on quality perception. *European Journal of Marketing*, 39, 785-808.
- Salomann, H., Kolbe, L., and Brenner, W. (2005). Self-Services in Customer Relationships; Balancing High-Tech and High-Touch Today and Tomorrow. *E-Service Journal*, 4(2) 65-84.

Servesafe Coursebook 6th edition. (2012). *National Restaurant Association Educational Foundation*. Chicago, IL

Steinhauer, J. (2007). Heated Competition. Steaming Neighbors. This Is Frozen Yogurt? New York Times. Retrieved: March 22th, 2011 from <http://www.nytimes.com/2007/02/21/dining/21pink.html?pagewanted=2>

Varki, S. and Colgate, M. (2001). The role of price perceptions in an integrated model of behavioral intentions. *Journal of Service Research*, 3, 232-240.

Vargo, S. L. and Lusch, R.F. (2004). Evolving to a New Dominant Logic for Marketing. *Journal of Marketing*, 68, 1-17.

Wakefield, K. L. and Blodgett, J. G. (1996). The effects of the servicescape on customers' behavioral intentions in leisure service setting. *Journal of Services Marketing*, 10(6), 45-61.

Appendix

Appendix1
Implied Consent
Self-serve, Customer Satisfaction Study

Introduction/ Description

As part of my university project, I am conducting a study to investigate the customer satisfaction at the Self-serve concepts in food industry. I will sincerely appreciate a few minutes of your time to participate in my study.

Risks and Benefits

This study is a step towards future studies intended to provide the solution towards the business owner at the Self-serve food establishments in Arkansas State and the nation at large. There are no anticipated risks to participating in the study.

Voluntary Participation

Your participation in the research is completely voluntary. If you choose to participate and complete the enclosed questionnaires, you may leave any items blank that you do not want to answer. You may withdraw from the survey at any time without consequence to you. It should take you about ten minutes to complete the questionnaire.

Confidentiality

All responses will be anonymous. Only employees of the research team and associated support staff will see completed questionnaires. All data will be combined and only group summaries will be included in the survey reports. No data will be reported in a manner that would allow a reader to associate any responses to individual respondents. Results from the research will be reported as aggregate data.

Right to Withdraw

You are free to refuse to participate in the research and to withdraw from this study at any time. Your decision to withdraw will bring no negative consequences- no penalty to you.

If you have any questions or concerns about his study you may contact my advisor Dr. Godwin-Charles Ogbeide through any of the means below. For questions or concerns about your rights as a research participant, please contact Ro Windwalker, the University's Compliance Coordinator, at (479)575-2208 or by email at irb@uark.edu.

By filling out and submitting the survey you are consenting to participate. You acknowledge that you read the description, including the purpose of the study, the procedures to be used, the potential risks and side effects, the anonymity of all responses, as well as the option to withdraw from the study at any time.

The survey will take you about 10 minutes to complete. Please respond immediately.

Appendix2

Self-serve Customer Satisfaction Questionnaire

1. Please circle a number which best indicates the importance of each of the following attributes in your decision to buy our product (s):

Attributes	Not Important	Rarely Important	Somewhat Important	Important	Very Important
a) Price	1	2	3	4	5
b) Value	1	2	3	4	5
c) Distance	1	2	3	4	5
d) Location	1	2	3	4	5
e) Self-serve	1	2	3	4	5
f) Quick service	1	2	3	4	5
g) Cleanliness	1	2	3	4	5
h) Product quality	1	2	3	4	5
i) Product quantity	1	2	3	4	5
j) Fun environment	1	2	3	4	5

2. Please circle the number which best describes your level of satisfaction with each of the following attributes in a Self-serve frozen dessert establishment:

Attributes	Very		Somewhat		Very
	Dissatisfied	Dissatisfied	Satisfied	Satisfied	Satisfied
a) Price	1	2	3	4	5
b) Value	1	2	3	4	5
c) Distance	1	2	3	4	5
d) Location	1	2	3	4	5
e) Customer friendly equipments	1	2	3	4	5
f) Quick service	1	2	3	4	5
g) Cleanliness	1	2	3	4	5
h) Product quality	1	2	3	4	5
i) Product quantity	1	2	3	4	5
j) Fun environment	1	2	3	4	5

3. Please circle the number which best describes your perception of consumer satisfaction with each of the following concepts in regard to a frozen dessert establishment:

Service Style	Very		Somewhat		Very
	Dissatisfied	Dissatisfied	Satisfied	Satisfied	Satisfied
a) Self-serve	1	2	3	4	5
b) Counter service	1	2	3	4	5
c) Casual Dining	1	2	3	4	5

4. Which of the following concepts do you prefer for frozen dessert establishment?
 - a) Casual Dining Restaurants
 - b) Self-serve
 - c) Counter service

5. How long have you been buying our product?
 - a) First time
 - b) A week or more
 - c) A month or more
 - d) 6 months or more
 - e) Over a year

6. How often do you buy our product?
 - a) Once a week or more
 - b) Once a month or more
 - c) Once in 6 months or more
 - d) Once a year or more
 - e) Less than once a year

7. How satisfied were you with the product?
 - a) Very Satisfied
 - b) Satisfied
 - c) Somewhat Satisfied
 - d) Unsatisfied
 - e) Very Unsatisfied
 - f) N/A

8. How old are you?
- a) Less than 20 years old
 - b) 21-25 years old
 - c) 26-30 years old
 - d) 31-40 years old
 - e) 41-50 years old
 - f) 51-64 years old
 - g) 65 years and above
9. Are you a Male or Female?
- a) Male
 - b) Female
10. Which of following best describes your current household income bracket?
- a) \$0-\$21,000/year
 - b) \$21,001-\$35,000/year
 - c) \$ 35,001-\$50,000/year
 - d) \$50,001-\$70,000/year
 - e) \$ 70,001-\$100,000/year
 - f) More than \$100,000/year
11. What is your employment status?
- a) Student
 - b) Unemployed
 - c) Part-time employment
 - d) Full-time employment